

PRODUCT INFORMATION



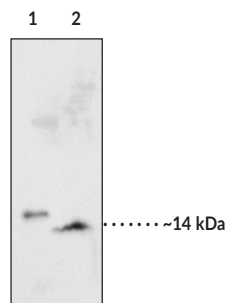
β2-Microglobulin (dog) Monoclonal Antibody (Clone 5B10)

Item No. 31017

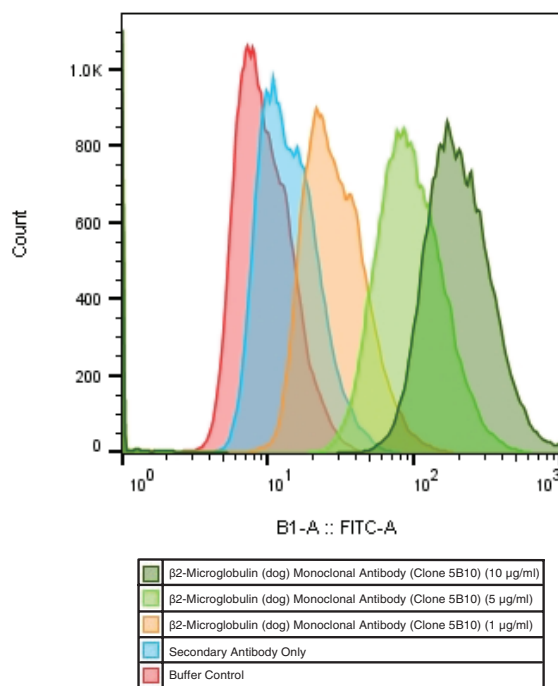
Overview and Properties

Contents: This vial contains 100 μg of protein G-purified monoclonal antibody.
Synonyms: B2M, IMD43, β2-Microglycoprotein
Immunogen: Recombinant dog β2-microglobulin protein (amino acids 28-125)
Cross Reactivity: (+) β2-microglobulin
Species Reactivity: (+) Dog; (-) Human
Uniprot No.: E2RN10
Form: Liquid
Storage: -20°C (as supplied)
Stability: ≥3 years
Storage Buffer: PBS, pH 7.2, with 50% glycerol, and 0.02% sodium azide
Clone: 5B10
Host: Mouse
Isotype: IgG2a
Applications: Flow cytometry (FC), Immunoprecipitation (IP), and Western blot (WB); the recommended starting dilution for FC is 1:200, 1:500-1:1,000 for WB, and 5 μg of antibody per IP test. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: β2-Microglobulin (dog, recombinant) Protein (5 ng)
Lane 2: MDCK cell lysates (30 μg)



MDCK cells were fixed with 3.7% formaldehyde for 15 minutes on ice and blocked and permeabilized with PBS containing 5% FBS and 0.1% saponin for 1 hour at room temperature. β2-Microglobulin (dog) Monoclonal Antibody (Clone 5B10) was used at the indicated concentrations. Goat Anti-Mouse (IgG+IgM) FITC (Item No. 10006617) was used as the secondary antibody at a dilution of 1:200.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

β 2-Microglobulin is a 98-amino acid protein and the light chain component of major histocompatibility complex (MHC) class I molecules.^{1,2} It is non-covalently associated with the MHC class I α chain and comprises a protein-building subunit of the MHC class I molecule to facilitate complex transport to the cell surface and antigen presentation to cytotoxic T cells. β 2-Microglobulin is found in all nucleated cells, as well as in extracellular fluids, including urine and serum, and MHC class I-associated β 2-microglobulin exhibits dissociation and equilibrium exchange with circulating soluble β 2-microglobulin.^{1,3} Germline mutations at the β 2-microglobulin exon 1/intron 1 splice site have been found in dog mammary gland simple and complex carcinoma tumor samples.⁴ Cayman's β 2-Microglobulin (dog) Monoclonal Antibody (Clone 5B10) can be used for flow cytometry (FC), immunoprecipitation (IP), and Western blot (WB) applications. The antibody recognizes β 2-microglobulin at approximately 14 kDa from dog samples.

References

1. Nomura, T., Huang, W.-C., Zhau, H.E., *et al.* β 2-Microglobulin-mediated signaling as a target for cancer therapy. *Anticancer Agents Med. Chem.* **14(3)**, 343-352 (2014).
2. Nakajima, Y., Hoshi, F., Higuchi, S., *et al.* The complete amino acid sequence of dog β ₂-microglobulin. *J. Vet. Med. Sci.* **61(5)**, 517-521 (1999).
3. Nakajima, Y., Hoshi, F., Higuchi, S., *et al.* Determination of canine β ₂-microglobulin in plasma and urine by enzyme-linked immunosorbent assay. *J. Vet. Med. Sci.* **63(3)**, 343-345 (2001).
4. Tanaka, T., Shimada, T., Akiyoshi, H., *et al.* Germline polymorphism at the β 2-microglobulin exon 1/intron 1 splice site in canine mammary gland simple and complex carcinomas. *Vet. Rec.* **172(20)**, 529 (2013).

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